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PATENT
Attorney Docket No.: 1965/US/2
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: John E. Litz	
Appln. No.	: 10/666,654	
Filed	: September 17, 2003	Art Unit : 1723
Title	: HEXA-VALENT CHROMIUM REMOVAL FROM AQUEOUS MEDIA USING FERROUS-FORM ZEOLITE MATERIALS	Examiner : Not Yet Assigned

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

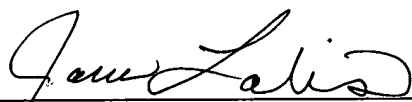
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Sir:

The undersigned hereby certifies that the following documents:

1. Information Disclosure Statement (2 pages);
2. Form PTO-1449 (3 pages);
3. Forty-six (46) References;
4. Certificate of Mailing by Express Mail (1 page); and
5. Return Card

relating to the above application, were deposited as "Express Mail" under 37 CFR § 1.10, Mailing Label No. EV 447216650 US, with the United States Postal Service addressed to Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on April ~~22~~ 2004.



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INFORMATION DISCLOSURE STATEMENT
(37 C.F.R. §§1.97(b)(3) and 1.98)

Sir:

The Examiner is requested to consider the references noted on the enclosed Form PTO-1449 during examination of the above-identified patent application. These references are submitted for the Examiner's consideration and are submitted pursuant to the duty of disclosure under 37 C.F.R. § 1.56. In submitting these references, no representation is made or implied that the references are or are not material to the examination of the application. The Examiner is encouraged to make his or her own determination of materiality. Copies of all the cited art documents are provided herewith.

Pursuant to 37 C.F.R. 1.97(b)(3), no fees are due with respect to this filing. However, should any fees be deemed necessary, such fees may be charged to Deposit

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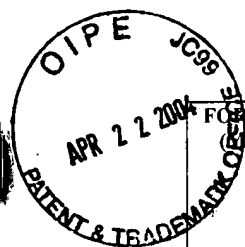
Should the examiner have any questions concerning the relevance of any reference cited in this disclosure, please contact the undersigned attorney.

Dated: 4/22/04.

Respectfully submitted,


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FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE
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ATTY. DOCKET NO.

1965/US/2

APPLN. NO.

10/666,654

INFORMATION DISCLOSURE
STATEMENT BY APPLICANT

(Use several sheets if necessary)

APPLICANT:

John E. Litz

FILING DATE

09/17/2003

ART UNIT

1723

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		PATENT NUMBER	ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	1.	3,723,308	03/27/1973	Breck	210	38	
	2.	3,933,631	01/20/1976	Adams	210	34	
	3.	4,695,387	09/22/1987	Berry et al.	210	676	
	4.	4,800,024	01/24/1989	Elfline	210	665	
	5.	5,556,545	09/17/1996	Volchek et al.	210	651	
	6.	5,591,346	01/07/1997	Etzel et al.	210	668	
	7.	5,679,256	10/21/1997	Rose	210	662	
	8.	6,042,731	03/28/2000	Bonnin	210	679	
	9.	6,531,063	03/11/2003	Rose	210	631	

FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION

		DOCUMENT NUMBER	PUBLISHED DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	10.	Abdo et al., "A new technique for removing hexavalent chromium from waste water and energy generation via galvanic reduction with scrap iron", <i>Energy Conservation and Management</i> , Volume 39, No. 9, pp. 943-951, July 1998. (Abstract)
	11.	Ames, L. L., "Zeolitic Removal of Ammonium Ions from Agricultural and Other Wastewaters", <i>13th Pacific Northwest Industrial Waste Conference, Washington State University</i> , pp. 135-152, 1967.
	12.	Barrado et al., "Characterisation of solid residues obtained on removal of Cr from waste water", <i>Journal of Alloys and Compounds</i> , Volume 335, pp. 203-209, March 14, 2002. (Abstract)
	13.	Bishop, D. F. et al., "Physical-Chemical Treatment of Municipal Wastewater", <i>Journal of Water Pollution Control Federation</i> , Vol. 44, No. 3, pp. 361-371, 1972.

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		
14.	Çelik, M. S. et al., "Removal of Ammonia by Natural Clay Minerals Using Fixed and Fluidised Bed Column Reactors", <i>Water Science and Technology: Water Supply</i> , Vol. 1, No. 1, pp. 81-88, 2001.	
15.	Chmielewska-Horváthová, E., "Use of Clinoptilolite in Ammonia Removal from Wastewater in and Outside Slovakia", <i>Mineralia Slovavaca</i> , Vol. 27, No. 4, pp. 268-272, 1995.	
16.	Chmielewska-Horváthová, E., "Advanced Wastewater Treatment Using Clinoptilolite", <i>Environment Protection Engineering</i> , Vol. 22, Issue 1-2, pp. 15-22, 1996.	
17.	Cooney, E. L. et al., "Ammonia Removal from Wastewaters Using Natural Australian Zeolite. II Pilot-Scale Study Using Continuous Packed Column Process", <i>Separation Science and Technology</i> , Vol. 34, Issue 14, pp. 2741-2760, 1999.	
18.	DOWEX RSC, "Radium Removal from Groundwater with DOWEX RSC Radium Selective Complexer Resin", <i>DOWEX Ion Exchange Resins</i> , http://www.dow.com/liquidseps , 2 pp., 2001.	
19.	Fazullina et al., "Removal of chromium compounds in the process of coagulation treatment of wool industry dyeing-finishing plant waste water", <i>Soviet Journal of Water Chemistry and Technology</i> , Volume 10, No. 5, pp. 85-88, 1988. (Abstract)	
20.	Hagiwara, Z. et al., "Ion-Exchange Reactions of Processed Zeolite and Its Application to the Removal of Ammonia-Nitrogen in Wastes", <i>Natural Zeolites: Occurrence, Properties, Use</i> , International Conference on the Occurrence, Properties, and Utilization of Natural Zeolites, Tucson, Arizona, Pergamon Press, pp. 463-470, 1978.	
21.	Han, Ihn Sup, "Environmental engineering parameters affecting the removal of hexavalent chromium and nitroaromatic compounds from water by granular activated carbon", <i>Thesis</i> , 178 pages, 1999. (Abstract)	
22.	Haralambous, A. et al., "The Use of Zeolite for Ammonium Uptake", <i>Water Science and Technology Journal</i> , Vol. 25, No. 1, (1992), pp. 139-145.	
23.	Hayhurst, D. T., "The Potential Use of Natural Zeolites for Ammonia Removal During Coal-Gasification", <i>Natural Zeolites: Occurrence, Properties, Use</i> , International Conference on the Occurrence, Properties, and Utilization of Natural Zeolites, Tucson, Arizona, Pergamon Press, pp. 503-507, 1978.	
24.	Jørgensen, S.E., "Ammonia Removal by Use of Clinoptilolite", <i>Water Research</i> , Vol. 10, pp. 213-224, 1976.	
25.	Kalló, D., "Wastewater Purification in Hungary Using Natural Zeolites", <i>Natural Zeolites '93</i> , International Committee Natural Zeolites, Brockport, New York, pp. 341-350, 1993.	
26.	Klieve, J. H. et al., "An Evaluation of Pretreated Natural Zeolites for Ammonium Removal", <i>Water Research – The Journal of the International Association on Water Pollution Research</i> , Vol. 14, No. 2, Pergamon Press, pp. 161-168, 1980.	
27.	Koon, J. H. et al., "Optimization of Ammonia Removal by Ion Exchange Using Clinoptilolite", <i>SERL Report No. 71-5</i> , University of California, Berkeley, California, pp. 1-189, 1971.	
28.	Koon, J. H. et al., "Ammonia Removal from Municipal Wastewaters by Ion Exchange", <i>Journal Water Pollution Control Federation</i> , Vol. 47, No. 3, pp. 448-465, 1975.	
29.	Kutsy, V. G., "The Removal of Co; 2; +, Ni; 2; +, Cu; 2; +, Zn; 2; +, Mn; 2; +, Fe; 3; + and Cr; 6; + out of Water Solutions by Phosphates of Metals", <i>EKOTEKHNLOGII I RESURSOSBEREZHENIE</i> , Part 1, pp. 42-45, 2002. (Abstract)	
30.	Lin, et al., "The removal of hexavalent chromium from water by ferrous sulfate", <i>Hazardous and industrial wastes: Proceedings of the twenty-seventh Mid-Atlantic industrial waste conference</i> , Technomic Publishing Co., Inc., Lancaster, PA, 1995. (Abstract)	
31.	McLaren, J. R. et al., "Factors Affecting Ammonia Removal by Clinoptilolite", <i>Journal of the Environmental Engineering Division, ASCE</i> , Vol. 1973, pp. 429-444, 1973.	

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		
	32.	Melitas et al., "Kinetics of soluble chromium removal from contaminated water by zero valent iron media: corrosion inhibition and passive oxide effects", <i>Environmental Science Technology</i> , Volume 35, No. 19, pp. 3948-3953, 2001. (Abstract)
	33.	Mercer, B. W., "Clinoptilolite in Water-Pollution Control", <i>The Ore Bin</i> , Vol. 31 No. 11, pp. 209-213, 1969.
	34.	Mercer, B. W., "Ammonia Removal from Secondary Effluents by Selective Ion Exchange", <i>Journal Water Pollution Control Federation</i> , Vol. 42, No. 2, pp. R95-R107, 1970.
	35.	Philipot et al., "Hexavalent Chromium Removal from Drinking Water", <i>Water Science and Technology</i> , Volume 17, No. 6/7, pp. 1121-1132, 1985. (Abstract)
	36.	Sarre et al., "Chromium removal in water by modified cellulose", <i>Journal of Water Science</i> , Volume 1, No. 1-2, pp. 55-71, 1988. (Abstract)
	37.	Semmens, M. J. et al., "Biological Regeneration of Ammonium-Saturated Clinoptilolite. II The Mechanism of Regeneration and Influence of Salt Concentration", <i>Environmental Science & Technology</i> , Vol. 11, pp. 260-265, 1977.
	38.	Semmens, M. J. et al. "Nitrogen Removal by Ion Exchange: Biological Regeneration of Clinoptilolite", <i>Journal of the Water Pollution Control Federation</i> , Vol. 49, No. 12, pp. 2431-2444, 1977.
	39.	Semmens, M. J. et al., "Clinoptilolite Column Ammonia Removal Model", <i>Journal of the Environmental Engineering Division, Proceedings of the American Society of Civil Engineers</i> , Vol. 104, No. EE2, pp. 231-244, 1978.
	40.	Semmens, M. J. et al., "The Regeneration of Clinoptilolite by Biologically Restored Brine", <i>University of Illinois, Water Resources Center</i> , Research Report No. 139, pp. 1-1 through C-10, 1979.
	41.	Semmens, M. J. et al., "Ammonium Removal by Ion Exchange: Using Biologically Restored Regenerant", <i>Journal of Water Pollution Control Federation</i> , Vol. 51, Issue 12, (December 1979), pp. 2928-2940.
	42.	Semmens, M. J., "Ammonium Removal by Clinoptilolite Using Biologically Assisted Regeneration", <i>5th International Conference on Zeolites</i> , Naples, Florida, pp. 795-804, 1980.
	43.	Slechta, A. F. et al., "Water Reclamation Studies at th South Lake Tahoe Public Utility District", <i>Journal of the Water Pollution Control Federation</i> , Vol. 39, pp. 787-814, 1967.
	44.	Smith, S. A. et al., "Tahoe-Truckee Water Reclamation Plant. First Year Review", <i>Water Reuse Symposium</i> , Vol. 2, pp. 1435-1445, 1979.
	45.	Svetich, Richard, "Long-Term Use of Clinoptilolite in the Treatment of Sewage at Tahoe-Truckee Sanitation Agency, Truckee, California", <i>Natural Zeolites: Occurrence, Properties, Use</i> , International Conference on the Occurrence, Properties, and Utilization of Natural Zeolites, Red Lion Hotel-Riverside, Boise, Idaho pp. 197-201, 1993.
	46.	Townsend, R. P. et al., "Ion Exchange Properties of Natural Clinoptilolite, Ferrierite and Mordenite: 1. Sodium-Ammonium Equilibria", <i>Zeolites</i> , Vol. 4, No. 2, pp. 191-195, 1984.
EXAMINER		DATE CONSIDERED
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.		